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AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 10, and continuing to page 1, line 17, as follows:

The present invention relates to a polymer electrolyte fuel cell. More particularly, in the polymer electrolyte fuel cell, an oxygen-containing hydrocarbon is introduced as a material for fuel from a supply section for supplying the material for fuel~~,~~ ~~t~~. The material for fuel is decomposed by a biochemical catalyst to generate hydrogen as fuel before the material for fuel reaches an anode of the polymer electrolyte fuel cell, and the generated hydrogen is supplied to the anode.

Please amend the paragraph beginning at page 2, line 1, and continuing to page 2, line 7, as follows:

Fuel cells are classified into a number of groups such as alkaline fuel cells, acid fuel cells, molten carbonate fuel cells, solid oxide fuel cells, and polymer electrolyte fuel cells (PEFCs) according to their types of electrolytes. Of these fuel cells, the PEFCs have proton-conductive solid polymers as electrolytes and are systems using high-purity hydrogen gas as fuel.

Please amend the paragraph beginning at page 3, line 14, and continuing to page 3, line 22, as follows:

On the other hand, direct methanol-air fuel cells (DMFCs) are directly supplied with methanol as fuel. Since they can use proton-conductive polymers as electrolytes, the DMFCs can possibly work at

temperatures lower than ~~10°C~~100°C. Since the fuel is liquid and is easy to transport and store, the DMFCs are considered to be suitable for size reduction and transportabilization. Thus the DMFCs are regarded as very likely power sources for automobiles and power sources for mobile electronic equipment.

Please amend the paragraph beginning at page 3, line 23, and continuing to page 4, line 17, as follows:

Direct methanol-air fuel cells using proton-conductive polymer membranes as electrolytes (PEM-DMFCs) have a structure in which porous electrodes carrying electrocatalysts are formed on both faces of a membrane of a fluorinated polymer having sulfonic acid groups, for example, a thin membrane such as Nafion® manufactured by DuPont, in such a manner as the porous electrodes sandwich the polymer membrane, the anode is directly supplied with an aqueous methanol solution and the cathode is supplied with oxygen or air. At the anode, methanol reacts with water to generate carbon dioxide, protons and electrons:

$$CH_3OH + H_2O \rightarrow CO_2 + 6H^+ + 6e^- .$$

At the cathode, oxygen reacts with protons and electrons to generate water:

$$3/2O_2 + 6H^+ + 6e^- \rightarrow 3H_2O .$$

These reactions progress with the help of the electrocatalysts carried by the electrodes. The ~~Theoretical~~ theoretical voltage of these reactions is 1.18 V, however in practical cells, the actual voltage is lower than the theoretical voltage for various reasons.

Please amend the caption on page 6, line 14, as follows:

BRIEF SUMMARY ~~OF THE INVENTION~~